# Part Three: Battlefield Survey

## Goals of Battlefield Survey

The primary goal of battlefield survey is to collect baseline information about the location, condition, and threats to a battlefield landscape and its component resources. The surveyor will:

- research the battle event;
- develop a list of battlefield defining features;
- visit the battlefield;
- locate, document, and photograph features;
- map troop positions and features on a USGS topographic quadrangle;
- define study and core engagement areas for each battlefield;
- assess overall site integrity and threats;
- define a potential National Register boundary for the battlefield; and
- complete documentation.

A minimum level of careful documentation is essential to build the argument for preserving the battlefield landscape and the cultural resources within the landscape. Properly drawn battle maps backed by documentation, particularly of sites that have been poorly studied in the past, can have a powerful influence on the attitudes of a local community as it plans for the future. As many communities strive to define their own unique character, preserved battlefields and related historic sites can add to a community's sense of identity and draw visitors. Battlefield survey is the first step toward educating community leaders and citizens about the existence and significance of a battlefield and about the importance of preserving the battlefield landscape, a non-renewable historic and natural resource.

## 1. Research the Battle Event

The surveyor begins by gathering available accounts of the battle and comparing versions of the event. Each of the various types of battle accounts must be evaluated according to source, time, intent, bias in the description, and usefulness. Who was the author? How long after the event was the account written? Why was the account written? Would the author have any reason to distort or exaggerate the truth? Which details in the account can be linked to actual ground locations? Combat is among the most complex of human endeavors and among the most confusing to describe. Eyewitnesses at a distance could not know with certainty what was happening at the front; participants at the front saw only their immediate surroundings, a small part of the whole. The "fog of war"—the smoke, excitement, and terror of battle—colored the perceptions of participants and observers alike. As time passed, memories faded, blurring faces and details. It is no surprise that battle reports, eyewitness accounts, and memoirs often vary widely in their descriptions of the same events. Battle accounts should be carefully weighed and compared to identify contradictions. The battlefield researcher faces many of the same problems as the journalist who attempts to separate truth from fiction in informants' accounts.

*After-Action Reports and Other Contemporary Accounts*

Eyewitness accounts are the source for most of what is written about battles. Officers were required to submit after-action reports to their superiors (although many did not or their reports have been lost). These range in quality from a terse recital of movements to extremely detailed accounts, depending on the author. Professional officers took care to identify what went wrong, what went right, who performed well, and often who was to blame; this required reporting specifics of unit position and maneuver. Sometimes exhausted writers reported only the barest facts: "The regiment assaulted in the afternoon and was repulsed." Many reports were written long after the event and relied heavily on the reports of subordinates. When using after-action reports, it is important to remember that officers had much to gain by putting their successes and failures in the best light.

One straightforward, detailed battle account is worth ten poor ones. Consider Brig. Gen. Joseph Kershaw's description of the terrain over which his brigade assaulted at Gettysburg on July 2, 1863 (identifiable features and locations are in italics):

> In my center front was a *stone house*, and to the left of it a *stone barn*, both about *500 yards* from our line, and on a line with the crest of the *orchard hill*. Along the front of the *orchard*, and on the face looking toward the stone house, the enemy's infantry was posted. Two batteries of artillery were in position, the one in *rear of the orchard*, *near the crest of the hill*, and the other some *200 yards farther back*, in the direction of the *rocky mountain*. Behind the stone house, *on the left*, was *a morass*; *on the right* a *stone wall* running parallel with our line of battle. Beyond the stone wall, and in a line with the stony hill, was a *heavy forest, extending far to our right*. From the morass a *small stream* ran through this wood along the base of the mountain *toward the right*. Between the stony hill and this forest was an *interval of about 100 yards*, which was only sparsely covered with *scrubby undergrowth*, through which a *small road* ran in the direction of the mountain. Looking down this road from the stone house, a large *wheat-field* was seen. In rear of the wheat-field, and between that and the mountain, was the enemy's main line of battle, posted behind a *stone wall*.[6]

This account was written by an officer who had imprinted the terrain features in his memory. Using this account today one can visit the field at Gettysburg and locate all of the features that Kershaw describes: the orchard hill (Peach Orchard), the stone house and barn (Rose Farm), the rocky mountain (Little Round Top), stone wall, forest, small stream, stony hill, and the Wheatfield. His account of the attack includes details of deployment and maneuver that many officers simply took for granted and never bothered to write down.

Estimates of distances are often at odds in the accounts. Reports from the artillery often were more detailed and reliable because artillery officers had a wider view of the action than many infantry field officers and were trained to accurately judge distances. A good artillery officer who says “a thousand yards” can be depended upon to mean a thousand yards.

Other eyewitness battle accounts may be found in diary and journal entries, letters written home

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[6] Report of Brig. Gen. J. B. Kershaw, *Official Records, Armies*, Serial 44:367-368.

by participants, or in contemporary newspapers. Contemporary military records, such as muster roles, casualty lists, and supply inventories can provide important context for research but provide few details of terrain or movement.

Published books and documents can be located by searching the Library of Congress card catalog, which is available on the Internet. Many volumes are available through inter-library loan. Various military records from the American wars are stored by the National Archives and Records Administration in Washington DC, and may be available on microfilm. Academic libraries and genealogical research centers often have microfilm copies of military records. The first stop for researching any Civil War event is the 128-volume, *The War of the Rebellion: A Compilation of the Official Records of the Union and Confederate Armies* (U.S. War Department. Washington, DC: 1880-1901), known as the *Official Records* or *Official Records, Armies*, or the O.R.. This work compiles officers' reports, communications, and other materials, related to campaigns and battles.[7] There is no comparable reference for earlier American wars, making research more difficult and time consuming.

*Researching the Revolutionary War and War of 1812*

As a starting point, researchers of these conflicts should review the *Encyclopedia of the American Revolution* by Mark M. Boatner III and the *Encyclopedia of the War of 1812*, edited by David and Jeanine Heidler. Each of these works contain excellent bibliographic references on various battles, skirmishes, and actions and participant accounts to consult for more detailed information. Also available are several major published bibliographies of printed histories, biographies, and source accounts, including *Revolutionary America, 1763-1789, A Bibliography*, 2 Vols., compiled by Ronald M. Gephart, and *Free Trade And Sailors Rights, A Bibliography of the War of 1812*, compiled by John C. Frederickson.

During the 1970s many state and local Bicentennial Commission offices published detailed guides and lists of Revolutionary War battles and sites. For example, *Battles and Skirmishes in New Jersey of the American Revolution* by David Munn, and *Battles, Skirmishes, and Actions of the American Revolution in South Carolina* by Terry W. Lipscomb are especially worth consulting. Almost every state produced published material about its role in the American Revolution and War of 1812, although the quality and quantity of this literature varies. Massachusetts, New Hampshire, Rhode Island, New York, Pennsylvania, Ohio, Michigan Kentucky, Tennessee, Virginia, Maryland, South Carolina, North Carolina, and Georgia have published their holdings of Revolutionary War and War of 1812 records in large annual volumes issued by the various state archives and historical organizations. Two excellent guides to these are *Locating Your Revolutionary War Ancestor, A Guide To The Military Records*, compiled by James and Lila Neagles, and *War of 1812 Genealogy* by George Schweitzer.

Because the American Revolutionary War and the War of 1812 were international in scope and participation, numerous collections of archival material and printed books pertaining to these two wars can be found in Canada, Great Britain, France, Germany, and Spain. Two especially rich

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[7] This reference is available at most public libraries, on CD-ROM, or on the Internet at "http://moa.cit.cornell.edu/MOA/".

sources are the collections at the National Archives of Canada in Ottawa and the Public Record Office in London, England. Surprisingly, one of the best and complete collections of related French and German materials can be found at our own Library of Congress. Many of the available resources are listed in M*anuscript Sources in the Library of Congress for Research on the American Revolution*, compiled by John Sellers, et al. Other foreign records, especially from British participants, can be found at the University of Michigan at Ann Arbor; the Huntington Museum and Art Gallery Library in San Marino, California; Buffalo State University, Buffalo, New York; and at Colonial Williamsburg, Williamsburg,Virginia.

Researchers looking for naval records should consult the *Naval Documents of the American Revolution* (ten volumes to date) and the *Naval Documents of the War of 1812* (two volumes to date). Both sets, published by the Government Printing Office in Washington, DC, cover inland water and open sea actions.

*Post-War Histories, Accounts, and Memoirs by Veterans*

Veterans published numerous post-war accounts. These consist of unit histories, secondary works, and interviews with other veterans; campaign and battle histories, many unusually well researched and documented; official or quasi-official biographies of famous (or infamous) officers; and personal memoirs that focus on the war experiences of the author. Many of these post-war accounts were written to defend the honor of the cause or of the participants or to vindicate the author's viewpoint. Some were carefully researched. Most have a built-in bias towards the participation of a single individual or a specific unit. Veterans who returned after the war and walked the battlefields where they fought in the company of other veterans wrote the best accounts. Officers with large egos and reputations to defend generally wrote the worst. Nevertheless, these books can be provide details and personal vignettes that may not appear in after-action reports.

*Secondary Campaign and Battle Books*

More than 250 books are published each year on the subject of the Civil War alone, while the rest of America’s wars may account for 25-30 volumes. An overwhelming number concentrate on a select number of important military campaigns and battles, although there has been a recent trend toward publishing more social and personal history, including soldiers' diaries and civilian accounts. Campaign and battle books are only as good as the research that went into them. It is wise to study the sources cited in the bibliography to determine if the author conducted primary research or relied heavily on secondary sources. It may be important to obtain copies of original documents cited in the bibliography.

Despite thousands of books on American military history, a large number of smaller but significant actions have never been treated by full-length manuscripts. Some of the smaller engagements might have been described by a local historian and published as a paper, an article in the newspaper, or a pamphlet. The most likely sources for such materials are the state historic preservation office, the county historical society, or local library.

*Orders of Battle*

One product of research into the battle accounts should be an order of battle—a list of all the

units and officers of both sides involved in an action. Orders of battle are typically broken down by army, corps, division, brigade, regiment, and sometimes battalion. In many cases, orders of battle have already been published in the sources and need only be photocopied. Otherwise, compile one from the available sources. Determine the size and composition of opposing forces. Sizes of units varied by time period, by army organization, length of service, and amount of combat experience. For example, a Civil War regiment numbered about a thousand men on paper, but veteran regiments often fielded only 250-400 soldiers. Include unit strengths on the order of battle when available. Numbers engaged and casualty figures are a useful gauge of the spatial extent and intensity of the conflict. An infantry regiment of 300 soldiers deployed in close-ranked line of battle would cover about 100 yards of front. An artillery battery of four guns would deploy on a front of about 60 yards. Mounted cavalry actions usually covered more ground but resulted in fewer casualties than infantry battles.

Use the order of battle to keep track of units. Star or check every unit whose officer made an official report or of which you have an account. You might find, for example, that only the left wing of the army filed reports, while activities on the right wing remain a mystery. This would suggest delving more deeply into sources that refer to right wing units. An attempt should be made to consult sources that cover the entire battle front.

*Historic Maps*[8]

Maps are among the most important sources for researching a battlefield landscape. Historic battle maps range from rough sketches that lack scale or perspective to accurately surveyed cartographic masterpieces by accomplished topographical engineers. It is important to differentiate between sketches and maps. A map is a cartographic product with a scale bar and typically a north arrow; information on a map was acquired either from a measured survey or from a previously surveyed base map; locations appear in proper relationship and relative distance on the landscape. Sketches were done quickly without benefit of measurements; distances between features and locations on a sketch may be distorted.

Map scale is important. A scale of one inch to the mile or smaller may be useful for tracing the main road network, comparing the drainage pattern, and locating the most significant features, such as towns, churches, and mills, but will provide less reliable detail for the landscape. Scales of three inches to the mile and better begin to depict more of the topography and land cover and may show the locations of farm roads and individual dwellings.

Almost any map or sketch produced by an observer during or soon after combat will provide important details of terrain and troop movements. Field sketches were sometimes incorporated into more finished maps, showing a wider geographic area or more detail, and published. Some published maps were conceived merely as illustrations for a battle account and may be loosely based

[8] The *Atlas to Accompany the Official Records of the Union and Confederate Armies* (U.S. War Department. 4 vols. 1891-1895. Reprint [1 vol.]. New York: Fairfax Press, 1983) is the companion work to the *Official Records, Armies*. The Atlas contains 821 maps and sketches many drawn by participants, 106 engravings of fortifications, and 209 drawings of weapons, uniforms, and equipment. Two reference works are especially helpful for locating historic Civil War maps: National Archives. *A Guide to Civil War Maps in the National Archives* Washington: National Archives, 1986. Stephenson, Richard W., comp. *Civil War Maps: An Annotated List of Maps and Atlases in the Library of Congress.* Second Edition. Washington: Library of Congress, 1989.

on reality. Any map based on survey will match the terrain to some degree, depending on the scale and skill of the mapmaker. The best maps, even those produced in the 18th century, can followed in the ground today.

Other historic, non-battle maps are as important as battle sketches or maps. Historic maps from the mid-to-late 19th century, often drafted at the county scale, can be useful in pinpointing mills, fords, old roadbeds, and even residents. The surveyor can use an old map to understand the patterns of the historic landscape, particularly if the landscape has changed drastically since the time of significance, and to find place names that appear in the battle accounts. A 19th century map can provide a conceptual bridge back to the 18th century. The oldest maps of a specific region, county, or town might be stored at the courthouse, at the county historical society, or in a local museum. The Library of Congress, the National Archives, and major academic libraries have collections of local historic maps. Many historic maps are available in digital form over the Internet through the Library of Congress and National Archives home pages. The National Oceanic and Atmospheric Administration (NOAA) inherited the maps of the Coast Survey, whose surveyors mapped much of the coastline and important rivers in the early 19th century. Many are offered on-line.[9]

*Revolutionary War and War of 1812 Maps*

To date, no definitive or comprehensive compilation exists for either the American Revolutionary War or the War of 1812 on the scale of the *Atlas* accompanying *Official Records* for the Civil War. However, numerous smaller but useful published sources are available. Two good collections of maps, plans, and sketches of individual Revolutionary War battlefields are the *Atlas of the American Revolution* edited by Kenneth Nebenzahl and Don Higginbotham, and *Campaigns of the American Revolution, An Atlas of Manuscript Maps* by Douglas Marshall and Howard Peckham. The former reproduces classic (mostly British and French) printed maps, plans, and sketches. The latter offers a selection of manuscript maps drawn during the battles or very shortly after the conclusion of the actions.

Other very useful guides for the study of Revolutionary War battle maps, plans, and diagrams include *A Bibliography off Printed Battle Plans of the American Revolution 1775-1795* compiled by Kenneth Nebenzahl; *American Maps and Map Makers of the American Revolution* by Peter J. Guthorn; *British Maps of the American Revolution* by Peter J. Guthorn; and *Maps and Plans in the Public Record Office, America and West Indies* edited by P.A. Penfold. Hundreds of other published and unpublished primary and secondary sources also contain useful maps.

Some excellent cartographic studies of particular Revolutionary War battles[10] and major campaigns include the *Atlas of Lake Champlain 1779-1780* by Captain William Chambers, R.N.; *The American Campaigns of Rochambeau's Army 1780, 1781, 1782, 1783*, 2 Vols., translated and edited by Howard C. Rice and Anne S.K. Brown; *The George Washington Atlas* edited by Lawrence Martin; *The Siege of Mobile 1780 in Maps*, by William and Hazel Coker; and *The Siege of*

[9] National Oceanographic and Atmospheric Administration, Historical Map and Chart Collection--- http://chartmaker.ncd.noaa.gov/ocs/text/map-coll.htm.

[10] Two unusual primary resources contain a wealth of maps and plans of lesser known actions that occurred in New Jersey, New York, and Virginia are *A History of the Operations of a Partisan Corps Called the Queen's Rangers*, by Lieut. Col. J.G. Simcoe and *Diary of the American War, A Hessian Journal, Captain Johann Ewald*, translated and edited by Joseph P. Tustin.

*Pensacola 1781 in Maps*, by William and Hazel Coker.

Many valuable collections of battlefield maps for the periods 1775-1783 and 1812-1815 exist in repositories across the United States. Two of the best collections are found at the Library of Congress in Washington, DC, and the William L. Clements Library at the University of Michigan, Ann Arbor. Serious researchers should contact these institutions or consult the finding guides for these map collections. Copies of select items from the Library of Congress can be inexpensively obtained with a little patience.

When researching the battles of the War of 1812, individual histories offer a wide but smaller selection of published battle maps and plans. Only two published works by participants in the war include small atlases of the battles and campaigns. These are *Historical Memoir of the War in West Florida and Louisiana in 1814-1815 with an Atlas* by Major A. La Carriere Latour, and *Memoirs of My Own Times*, 4 Vol., by James Willkinson (Volume 4 is the atlas). For modern battle maps of specific sites and campaigns, refer to *The War of 1812, Land Operations* by George Stanley, and the *Encyclopedia of the War of 1812* edited by David and Jeanine Heidler.

Cartographic materials from the Revolutionary War and War of 1812 are vastly different from their Civil War counterparts. In the 18th and early 19th centuries, scales of distance were not universal, color and symbol keys varied, and the quality and detail of the maps differed from cartographer to cartographer. Different countries provided different schools of cartographic training and design. Hence American and British maps are scaled in individual feet; German maps in the common stride pace; and French maps in leagues. Surveyors should remember this when analyzing maps, plans, and diagrams produced by multi-nationals that depict the same event. The following studies help explain the mapping peculiarities of the periods: *Mapping the American Revolutionary War* by J.B. Harley, Barbara Bartz Petchenik and Lawrence Towner, and *Surveyors and Statesmen, Land Measuring in Colonial Virginia* by Sarah Hughes.

An excellent overview of how to analyze historic maps when researching a battlefield is *War Over Walloomscoick: Land Use and Settlement Patterns on the Bennington Battlefield - 1777* by Philip Lord Jr. Copies are available from the New York State Museum in Albany, New York, for a nominal fee.

*20th-Century Maps*

The base map selected for use in battlefield survey is the standard United States Geographical Survey (USGS) topographical quadrangle (quad) produced at a scale of 1:24,000. These maps are available for the entire United States and are periodically updated to reflect new roads and new land use changes. The legend at the bottom of the map will explain when the terrain was actually surveyed and when it was photo-revised, that is, updated from aerial photographs. It is a good idea to research older versions of the USGS quads. These maps were first issued for most of the country in the 1920s; some areas are covered back to the 1890s. These older quads often show original road traces, before widening, straightening, and paving, and reveal other ways in which the landscape has changed over the years.

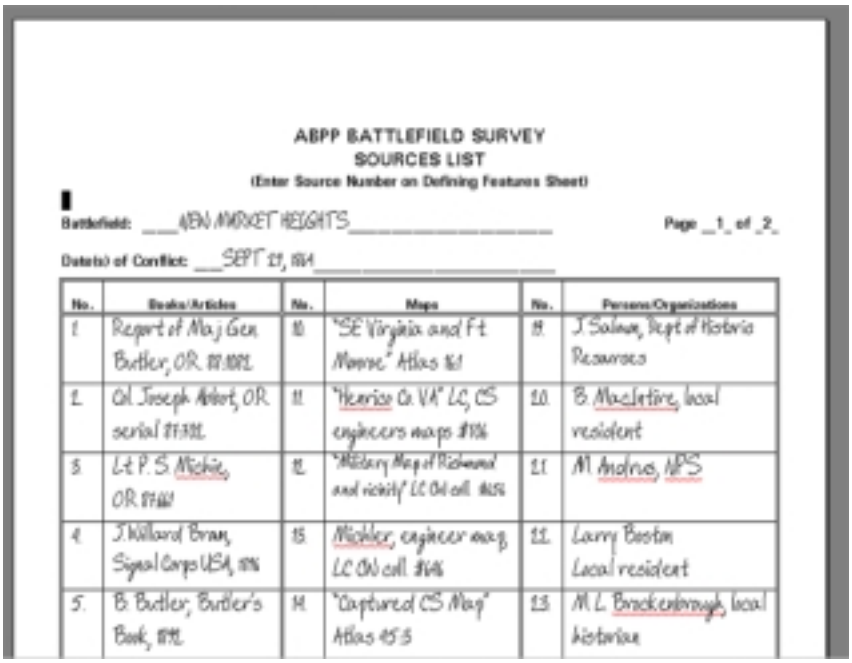
Compare battle maps and historic maps with modern USGS quadrangles. Which roads are new? Which roads follow the old road beds? Compare battle maps found in primary sources and in secondary sources. Where do they agree and disagree? Working from the historic maps, pencil in potential locations for fords, mills, churches, houses on the USGS quadrangle.

*Research Bibliography and Sources List*

Create a research bibliography detailing all of the books, documents, maps, and people that were consulted. Transfer the short title for these sources to the Sources List and give each one a number. This number will be used as a reference on the Defining Features List and will save much writing later on. The Sources List should continue to grow as the survey continues. A blank Battlefield Source List and a Defining Features List are included in the appendix for photocopying.

**2. Develop a List of Defining Features**

The Defining Features List serves as the surveyor's agenda and guide on the battlefield. A *defining feature* may be any feature mentioned in battle accounts or shown on historic maps that potentially can be located on the ground. A defining feature may be a place such as a town, a structure such as a mill or church, a road, fence, wood lot or corn field; it may be a natural terrain feature, such as a stream, ridge, hill, or ravine. Any description that implies a location can be a defining feature whether or not that feature survives today. Keep a running list of these features as they are encountered in the sources, add to the Defining Features List from each new source, and add the source number (from the Sources List) to a feature that has already been identified by other sources. As this list builds, and as each feature is located on the ground and on the USGS map, the extent of the battlefield will begin to reveal itself on the landscape.

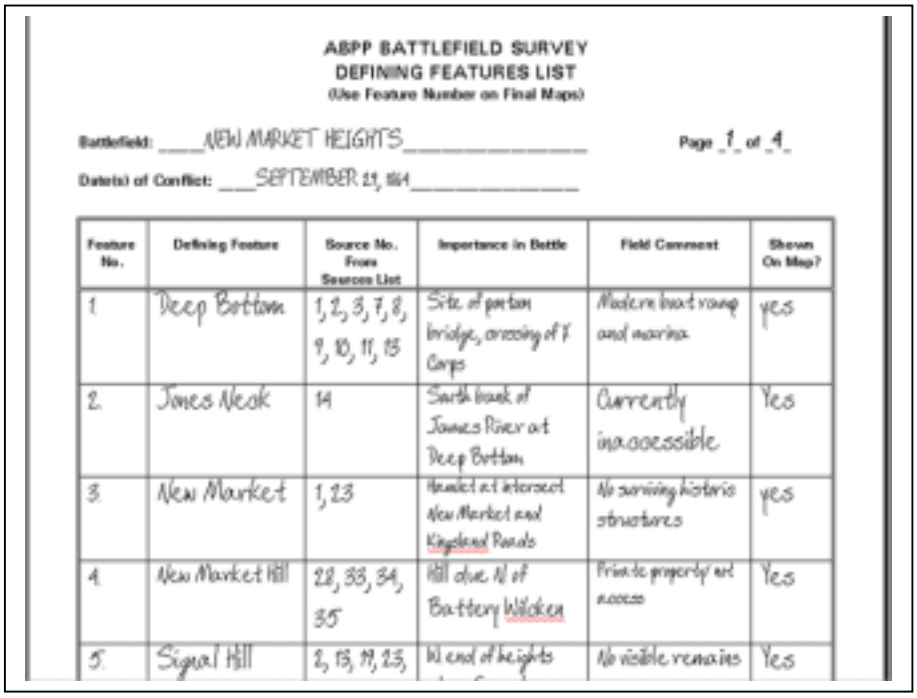


ABPP BATTLEFIELD SURVEY
SOURCES LIST
(Enter Source Number on Defining Features Sheet)

Battlefield: NEW MARKET HEIGHTS Page 1 of 2

Date(s) of Conflict: SEPT 29, 1864

| No. | Books/Articles | No. | Maps | No. | Persons/Organizations |
|---|---|---|---|---|---|
| 1. | Report of Maj Gen Butler, OR. [illegible] | 10. | "SE Virginia and Ft Monroe" Atlas [illegible] | 19. | J. Salmon, Dept of Historic Resources |
| 2. | Col. Joseph Abbot, OR serial [illegible] | 11. | "Henrico Co. VA" LC, CS engineers maps [illegible] | 20. | B. Macletire, local resident |
| 3. | Lt P.S. Michie, OR [illegible] | 12. | "Military Map of Richmond and vicinity" LC Div call [illegible] | 21. | M. Andrus, NPS |
| 4. | J. Willard Brown, Signal Corps USA, [illegible] | 13. | Michler, engineer maj, LC Div call [illegible] | 22. | Larry Boston Local resident |
| 5. | B. Butler, Butler's Book, [illegible] | 14. | "Captured CS Map" Atlas 45 5 | 23. | M. L. Brackenbrough, local historian |



ABPP BATTLEFIELD SURVEY
DEFINING FEATURES LIST
(Use Feature Number on Final Maps)

Battlefield: NEW MARKET HEIGHTS Page 1 of 4

Date(s) of Conflict: SEPTEMBER 29, 1864

| Feature No. | Defining Feature | Source No. From Sources List | Importance in Battle | Field Comment | Shown On Map? |
|---|---|---|---|---|---|
| 1 | Deep Bottom | 1, 2, 3, 7, 8, 9, 10, 11, 15 | Site of pontoon bridge, crossing of X Corps | Modern boat ramp and marina | yes |
| 2. | Jones Neck | 14 | South bank of James River at Deep Bottom | Currently inaccessible | Yes |
| 3. | New Market | 1, 23 | Hamlet at intersect New Market and Kingsland Roads | No surviving historic structures | yes |
| 4. | New Market Hill | 22, 33, 34, 35 | Hill due N of Battery Wilcken | Private property/ no access | Yes |
| 5. | Signal Hill | 2, 15, 19, 23, | N end of heights | No visible remains | Yes |

Soldiers oriented themselves on the battlefield by the cultural and natural landmarks of the historic landscape. Accounts will mention nearby towns and villages, the roads marched upon, a memorable building or a stream crossed while

marching into combat. As battle developed, participants might note key terrain elements—a high hill—or obstacles that made their task difficult—struggling through a bog, losing direction in the woods—or cover—hiding behind a stone fence. An officer might mention the location of his headquarters or of the unit's hospital. Individual soldiers took note of landmarks that would guide them back to find their dead and wounded comrades. One account may simply mention a "deep ravine" or "thickly wooded swamp," whereas another account might add the information "through which flows Deep Run Creek." By cross-checking accounts and comparing accounts with maps, it is often possible to give a specific name to an otherwise vaguely described feature. Sometimes, a feature may have to remain vague on the Defining Features List as "deep ravine (crossed by Bartlett's Brigade in afternoon assault)." A visit to the battlefield may enable the researcher to link the defining feature with a specific feature on the ground.

As much as possible, depending on obtaining permission to enter private property, the researcher should plan to identify, locate, and visit every location on the Defining Features List.

**3. Visit the Battlefield**

*Plan the Visit*

When the research is complete, sources listed, and defining features identified, it is time to get into the field. The battlefield landscape is the laboratory for testing our understanding of how the battle unfolded. Plan to spend at two or three days in the field getting to know a moderately sized battlefield that might encompass 1,000-2,000 acres. Take copies of all battle accounts and maps and copies of USGS quadrangles to encompass the entire area of interest.

If not a local resident, find someone who knows the area to accompany you in the field. To locate a battlefield expert, call the county historical society or the local Civil War Roundtable. Somewhere in the locality, someone has studied the battlefield and probably would be willing to share his or her knowledge. Visiting the battlefield in the company of a local guide or landowner, makes it easier to meet battlefield property owners, who might invite you to tour their site. Most people are suspicious of strangers and understandably so. If you cannot find a local guide and must go into a community "cold," stop at the public library, introduce yourself to the librarian, and find out who may know about the battlefield. The librarian may provide names and telephone numbers or suggest someone else to ask. If the area is rural and there is little traffic on the roads, you may want to check in with the local sheriff or police department, explain what you are doing, where you are staying, and how long you will be in the vicinity. That way if the sheriff gets a call about a "suspicious person" driving around and taking photographs, he can explain your business and spare you the embarrassment of flashing blue lights.

When contacting local landowners, budget time for conversation. Not only is this polite, it is productive in terms of sharing information and invaluable in terms of cultivating good will. An hour spent drinking ice tea on the porch of a house on the battlefield with a knowledgeable landowner often can save you a day of fruitless thrashing around the neighborhood.

**Field Survey Checklist**

- ❑ **USGS Topographic Quads for Area**
- ❑ **Essential References**
- ❑ **Filled-in Defining Features Sheets**
- ❑ **Photocopies of Historic Maps**
- ❑ **Local Contact and Guide**
- ❑ **Clip Board and Pencils**
- ❑ **Copies of state and ABPP survey forms**
- ❑ **Copy of this survey manual**
- ❑ **Compass**
- ❑ **Binoculars**
- ❑ **Two Cameras**
- ❑ **Color Slide and Black and White Film**
- ❑ **Photo Log Sheets**
- ❑ **Field Clothes/Comfortable Shoes**
- ❑ **Insect Protection**
- ❑ **Personal Identification**

*Windshield Tour*

Start with the big picture. Conduct a "windshield tour" of the area in your vehicle, systematically following all of the public roads through and around the battlefield area. Observe the general character of land use and settlement pattern. Look for survivals and old structures. Identify key terrain, pick out landmarks, and look for the defining features from your list. Use a USGS quad as a guide, making notes and observations directly on the map in pencil. While conducting the windshield survey, pencil or shade in areas where the land use has changed since the USGS quads were last updated. Note new roads, structures, and other intrusions. Attention to detail now will come in handy later when you are working on the final maps and estimating amounts of land in the various land use categories.

Pull off to the side of the road often to consider the lay of the land. Study the terrain. What were each side's objectives? How do the historic maps and sketches compare with the existing terrain? Could you find your way around the area today using only the historic map? Is the road network the same or have the old roads passed into disuse? Has the terrain been recontoured by highway construction?

Stop to take photos where appropriate (see section below on photography). It is important to locate vantage points from which to view a large expanse of the battlefield from the sides of both combatants, if possible. Some battlefield landscapes may be viewed and understood largely from public roads, and this should be noted. These could be ideal sites for self-guided driving tours.

*Terrain Study*

Because of foliage or topography, many battlefield landscapes or important features cannot be seen or understood from the highways. Secure permission to enter private property where it is necessary to locate and field-check defining features that cannot be seen from the road. A friendly landowner can be an invaluable source of information on the history of a property, pointing out a house site, the location of a ford, or the route of an old road trace, for example. The landowner may know where concentrations of artifacts have been unearthed and be able to describe them. Many landowners have studied the battle that occurred on their property and can offer their educated opinions about where specific events occurred. Sometimes, their opinion may not agree with the

historians' or with your own opinion. Do not feel that you have to argue with someone to prove your point. Listen politely and focus your questions on terrain features and locations of the defining features.

Keep track of the names and addresses of helpful landowners and add these to the Sources Sheet. You may need to contact them later to fill in gaps in your information, or you may wish to send a brief letter of thanks. Many landowners do not like to be disturbed. This is their right. Respect it and move on with a wave and a thank you. You may learn what you need to know from someone else, or be resigned to leaving a blank spot on the map.

Read battle accounts on the field and compare descriptions with the landscape. At this point, things should be falling into place. Troop deployments and maneuvers in the accounts should match your understanding of the historic landscape and how soldiers utilize the terrain. If the accounts don't make sense on the ground—if key terrain features are missing, for example—back off and try again. You may have overlooked something. The old road might have diverged from the modern road and taken a different course through the landscape.

*Use Inherent Military Probability to "Ground-truth" Battle Accounts*

Many contradictions in battle accounts can be reconciled only by visiting the battlefield with the accounts and maps in hand. 19th-century military historian Hans Delbrück demonstrated that intelligent inspection of the terrain could prove or disprove many traditional battle accounts. Following Delbrück's principles, A.H. Burne proposed and tested the concept of Inherent Military Probability, which he defined as "the solution of an obscurity by an estimate of what a trained soldier would have done in the circumstances."[11]

Inherent Military Probability is an important concept for assessing the value of eyewitness accounts. The battlefield researcher must view the terrain with a soldier's eye (KOCOA) and determine whether the events described in the accounts are indeed reasonable and plausible. The researcher must train his or her vision to see the landscape as the combatants saw it. What were the advantages and disadvantages of the respective positions? What were the possibilities for attack and defense? How were military units shifted from one part of the battlefield to another? Where would batteries have been placed? Where did the soldiers get their water? Viewing the terrain in terms of Inherent Military Probability, can provide answers for many puzzling questions, so long as you are grounded in the sources.

Examine the ground until the movements of the armies reconcile themselves in your mind. What were the tactical objectives of both sides? Pay close attention to terrain features that might resolve contradictions in the battle accounts. Use the principle of Inherent Military Probability to test the participants' descriptions of the action. The battle line ran along that ridge and was anchored on the creek. The flanking attack came through that parking lot. Artillery was on that hill. Note these details and observations directly on the USGS quad. Sketch in battle lines and movements that make sense of the accounts and the terrain. You will use this information later when completing the final troop movement maps.

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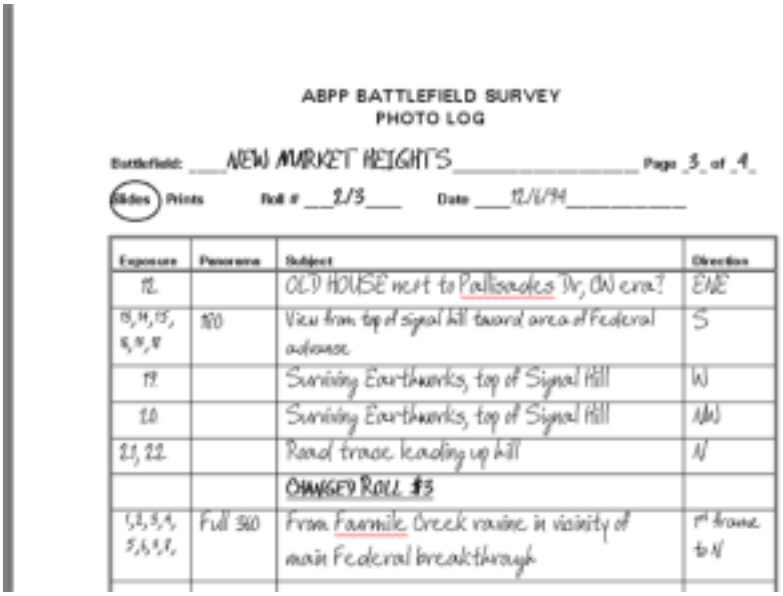
[11] John Keegan, *The Face of Battle*, Viking Press: 1976, 32.

**4. Take Photographs (Photo Log Form)**

For archival documentation, the ideal is to take both black and white photographs and color slides of the battlefield. This requires two cameras and two Photo Log Sheets on your clip board. With planning, you should be able to cover most battlefields entirely with two or three rolls of 24-exposure film.

Photographs and slides of the battlefield landscape should be taken as 180° or 360° panoramas from selected vantage points. The panoramic approach has the advantage of preventing unconscious "editing" of the scenery, since the purpose of the survey is not to take pleasing pictures but to capture a balanced coverage of the viewsheds that includes both pristine and compromised areas of the battlefield. Panoramas accomplish this purpose. An average camera lens requires 8-10 frames to cover 360°. If you are in the midst of a wilderness with no clear vantage points, panorama shots will be of limited use. Use your judgment in these cases.

When taking photographs, select three or four vantage points that cover the battlefield from different angles. Mark the locations from where panoramas are taken on your USGS quads with a circled star (✯). When taking 360° shots, begin with the north and return to the north. (This is where your compass comes in handy.) When taking 180° panoramas, note the direction of the center exposure on the USGS quad with an arrow. Number the stars on your map to correspond with each panorama series. As you take photos, be sure to write down the frame number, the subject, and direction on your photo log sheet. You cannot always remember later where a photo was taken, even when it seems obvious while on site. The spot where single photos/slides are taken of structures, areas of special interest, etc., should be marked on the USGS quad as a circle with an arrow pointing in the direction of the shot ( ). Whenever possible and regardless of lighting, take more detailed photographs of building and objects from opposite vantage points so that the photographs capture both front and back of the resource.



ABPP BATTLEFIELD SURVEY
PHOTO LOG

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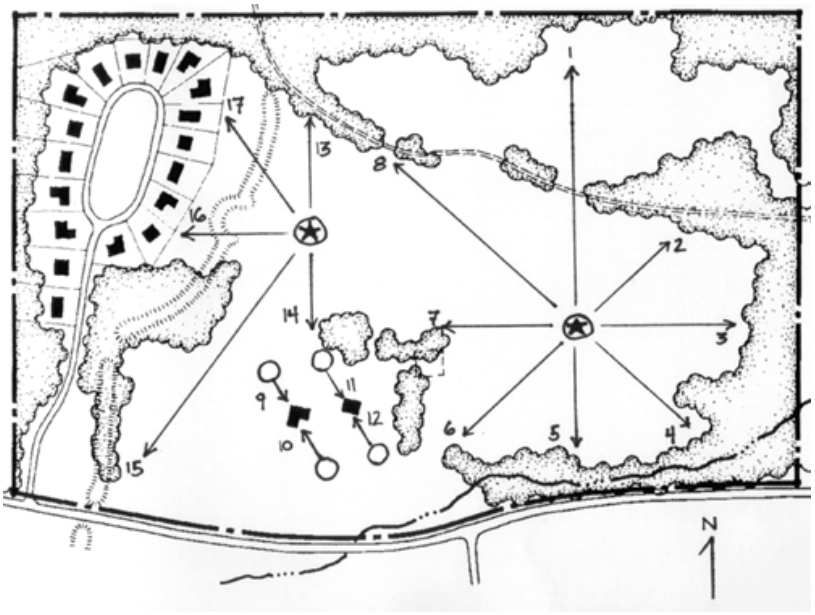
(Slides) Prints Roll # 2/3 Date 12/6/94

| Exposure | Panorama | Subject | Direction |
|---|---|---|---|
| 12 | | OLD HOUSE next to Palisades Dr, ON era? | ENE |
| 13, 14, 15, 16, 17, 18 | 180 | View from top of signal hill toward area of Federal advance | S |
| 19 | | Surviving Earthworks, top of Signal Hill | W |
| 20 | | Surviving Earthworks, top of Signal Hill | NW |
| 21, 22 | | Road trace leading up hill | N |
| | | CHANGED ROLL #3 | |
| 1, 2, 3, 4, 5, 6, 7, 8, | Full 360 | From Fourmile Creek ravine in vicinity of main Federal breakthrough | 1st frame to N |




*This site plan illustrates three types of photographic views needed for battlefield documentation. Frames 1-8 show the North-then-clockwise manner in which to capture a 360° panorama. Frames 9-12 show shots of historic buildings from opposing angles at the corners in order to capture as many sides of the subject as possible. Frames 13-17 show the 180° panorama. Note that the 180° panorama captures open viewsheds, a line of earthworks, and modern development beyond the works.*[12]

The National Park Service encourages surveyors to use 35mm black and white and color slide film. All purpose 200 ASA slide film and 100 and 400 ASA black and white film are standard. Automatic focus "point-and-click" cameras are adequate for survey purposes, although we do not recommend using disposable cameras. For additional tips on photographing cultural resources, see *How to Improve the Quality of Photographs for National Register Nominations*, available free of charge from the National Register of Historic Places, National Park Service.

## 5. Prepare Maps and Survey Form

*Map Troop Movements, Positions, and Defining Features*

While memory is still fresh, transfer information from field maps to clean USGS quads, using the symbol conventions provided. It is essential to use pens with waterproof inks, otherwise the colors begin to fade quickly. Plot and label the defining features. Draw in primary troop movements and positions. Every effort should be made to estimate exact frontages for deployed troops according to the map scale. Label troop positions by the names of the army, corps, division and/or brigade commanders. Consulting your field maps, block in any land use changes in pencil and label these areas as commercial, industrial, residential, quarry, etc.

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[12] Original artwork from "A Community Guide to Protecting Civil War Battlefield Sites and Features in the Fredericksburg Region of Virginia," National Park Service, 1996.

## Mapping Checklist

- ❑ Use Pens with Permanent Ink (Do Not Use Highlighting Pens)
- ❑ Mark Main American Troop Movements and Positions in Blue
- ❑ Mark Main Opposing Troop Movements and Positions in Red
- ❑ Label Military Units at the Division or Brigade Level
- ❑ Label Defining Features Located During Field Survey
- ❑ Star and Number Photo Points
- ❑ Draw Study Area Boundaries Following Natural Features and Contours
- ❑ Draw Core Area Boundaries Following Natural Features and Contours
- ❑ Star and Number Photo Points
- ❑ Draw Potential National Register (PotNR) Boundaries to exclude portions of the battlefield that have lost integrity
- ❑ No Primary Combat Areas Appear Outside of the Core Area boundaries
- ❑ Map Edge and Margin are Unmarked
- ❑ Lines Crossing Two Adjacent Quads Match Up
- ❑ Key in Lower Right of Each Primary Quad Includes Name and Date of Battle, Mapmaker's Name, and Date Map Completed
- ❑ Mapmaker Retains Copies of Maps for Personal Files

*Defining the Study and Core Areas*

Outlining a Study and Core Areas for the battlefield is a critical part of mapping. The outlines of these areas are not boundaries in the literal sense. You are noting the ground that figured prominently in the combat event. Carefully researched Study and Core Areas enable researchers to compare types and sizes of combat events.

The *Study Area* of a battlefield is the maximum delineation of the historical site. The Study Area should contain all places related or contributing to the battle event: where troops maneuvered, deployed, and fought immediately before, during, and immediately after combat. The Study Area functions as the tactical context and visual setting of the battlefield. Following natural features and contours on the USGS quad, outline a Study Area that includes all those locations that directly contributed to the development and denouement of the battle.

The Study Area should include the following:

- Core Areas of combat (see Core Area below)
- Approach and withdrawal routes of the armies (these can be drawn as corridors along the roads if movement was confined to the road);
- Locations of any deployed units of the armies on the field, even if these units were not engaged;
- Preliminary skirmishing if it led directly to the battle; and
- Logistical areas of the engaged armies, i.e. locations of ammunition trains, hospitals, and supply dumps

The Study Area should be restricted to the immediate flow of battle after one side or the other has moved to initiate combat. For example, if a unit left its encampments in the night intending to attack the enemy at dawn, it would be appropriate to include these encampments in the Study Area as the initial position of the attacking force. The route of the previous day's march to reach these encampments would not be included. The Study Area should end where the armies disengaged. Forces may have disengaged under orders, because of darkness or adverse weather conditions,

pursuit of a retreating force was halted by a rear guard action, or because one force accomplished its objective and chose not to pursue its retreating foe.

The *Core Area* of a battlefield is the area of direct combat, often described as "hallowed ground." It includes those places where the opposing forces engaged and incurred casualties. The Core Area should always fall fully within the Study Area.

Following natural features and contours on the USGS quad, outline a *Core Area* that contains the areas of confrontation, conflict, and casualties. Do not use an arbitrary box. Natural barriers, such as rivers, creeks, swamps, hills and ridges often restrained the movement of the armies, providing a "natural" boundary for the battlefield.

Determining what to include within the Core Area can be difficult. As a rule, if units, including artillery, were engaged in the fighting then their positions should be in the Core Area. If units came under fire, even if being held in reserve, their positions should be included. Units held in reserve out of range should be included in the Study Area but not in the Core Area, unless these units held a position that had a critical influence on the outcome of a battle. For example, if artillery massed to cover a ford made the position too strong for the opposing force to assault, then the presence of the guns, although not engaged, influenced the battle's outcome by forcing the attackers to another ford. Such situations only occasionally developed without at least cannonading or a probing attack that would automatically make the position eligible for the Core Area. Minor preliminary skirmishing along the roads should not be included in the Core Area, particularly if it skews the Core Area and distracts attention from the primary area of combat.

*Defining the Potential National Register (PotNR) Boundary*

The Potential National Register or "PotNR" boundary is perhaps the most important demarcation the surveyor will make on the USGS quads. It depicts those portions of the historic battlefield landscape that continue to retain integrity as of the date of ground survey. The PotNR boundary indicates to preservationists and planners what remains to save. It provides State Historic Preservation Officers and the National Park Service with important information on which to base nominations of the battlefield to the National Register of Historic Places and other historic preservation planning decisions.

The PotNR should include all parts of the Study and Core Areas that can still convey a sense of the historic scene. Any parts of the Study and Core Areas that have been compromised by modern development, erosion, or other destructive forces and that can no longer provide a feeling of the historic setting should be excluded from the PotNR boundary. The surveyor must be able to justify why the PotNR was drawn to include some areas and exclude others.[13]

Keep in mind that the PotNR boundary is a preliminary recommendation only. It is in no way an official National Register of Historic Places site boundary.

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[13] For additional guidance, see Donna J. Seifert, *Defining Boundaries for National Register Properties,* Washington DC: Department of the Interior, National Park Service, 1995.